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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Howell Schwartz

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EXAMINER

BLACKMAN, ROCHELLE ANN J

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/719,157

Applicant(s)

SCHWARTZ ET AL.

Examiner

Rochelle Blackman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-18 and 20 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10 and 12-15 is/are rejected.
- 7) ☒ Claim(s) 3 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Lurkens et al. (U.S. Patent Application Publication No. 2005/0077841).

Regarding claim 1, Lurkens discloses a system (see FIGS. 1-6) for managing projector bulb life, the system comprising: a luminance sensor (for example, see 140 of FIG. 4) disposed to sense the luminance of the projector bulb; a luminance controller (see 132, 150 of FIG. 4) interfaced with the luminance sensor (see connection between 150 and 140 in FIG. 4) and a power driver (see 131, 132 in FIG. 4 and see connection between 50 and 131, 132 in FIG. 4) of the projector bulb, the luminance controller operable to reduce the power driver output to limit projector bulb luminance at or below a setpoint level (rated value or power level of projector bulb 112 in FIG. 4) associated with a desired projector bulb life if the maximum luminance of the projector bulb is greater than a predetermined brightness (see FIGS. 2a-d and paragraphs [0061]-[0065])

- "luminance controller" 132, 150 is considered to be capable of performing the recited function).

Regarding claim 2, Lurkens discloses wherein the luminance controller is further operable increase power driver output to maintain projector bulb luminance substantially at the setpoint level if the sensed luminance falls to a predetermined brightness (see function of 150 in FIG. 4 and *Light quantity signal* between 150 and 132 in FIG. 4 and see FIGS. 2a-d).

Regarding claims 8-10, the "method for managing projector bulb life" is similarly met by the features and function of the above-mentioned elements recited for the "system for managing projector bulb life" of claims 1 and 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 4, 7, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable Lurkens et al. (U.S. Patent Application Publication No. 2005/0077841) in view of Stark et al. (U.S. Patent No. 6,520,648).

Regarding claim 4, Lurkens discloses the claimed invention except for the projector bulb comprising an "ultra high pressure mercury vapor bulb".

Stark teaches providing the projector bulb comprising an ultra high pressure mercury vapor bulb (112).

It would have been obvious to one of ordinary skill in the art at time the invention was made to provide the "system" of the Lurkens with a "ultra high pressure mercury vapor bulb", as taught by Stark in order to achieve lifetime and lumen specifications in the image projector or the "system" and contribute to high efficiency operation of the projector engine of the image projection system or "system" (see col. 3, lines 44-49).

Regarding claims 7, 14, and 15, Lurkens discloses the claimed invention except for wherein the luminance sensor comprises a visible light sensor aligned to sense light leakage from a "mirror" of the projector; the bulb providing light for a "digital mirror device" projector having a "color wheel", and wherein sensing the luminance further comprises sensing luminance at the "color wheel"; wherein the bulb provides light for a "digital mirror device" projector having a "mirror" for projecting an image, and wherein sensing the luminance further comprises sensing luminance of light leakage at the "mirror"; wherein the image comprises output of a "digital mirror device".

Stark teaches providing wherein the luminance sensor comprises a visible light sensor (162) aligned to sense light leakage from a mirror (130) of the projector; wherein the bulb provides light for a digital mirror device projector (see 110, 130) having a color wheel (120), and wherein sensing the luminance further comprises sensing luminance at the color wheel (see 162); wherein the bulb provides light for a digital mirror device projector (see 110, 130) having a mirror (130) for projecting an image, and wherein sensing the luminance further comprises sensing luminance of light leakage at the

mirror (see function of 162); wherein the image comprises output of a digital mirror device (see 130).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the "system"/ "method"/ "projector" of the Lurkens reference with a "mirror" and/or "digital micromirror device" and a "color wheel", as taught by Stark in order to improve brightness, color saturation, and color balance for a projected image (see col. 2, lines 35-38).

Regarding claim 13, Lurkens discloses the claimed passing the light from the projector bulb (112 of FIG. 4) through a first aperture (see area where light exits reflector surrounding "projector bulb" 112 in FIG. 4) to a columnator (see 112a) for illuminating an image. However, Lurkens does not appear to disclose passing the light from the projector bulb through a "second aperture" to a luminance sensor for sensing the luminance.

Stark teaches providing passing the light from the projector bulb through a second aperture (see 158 and entrance thereof in FIG. 3) to a luminance sensor (162) for sensing the luminance.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the "method" of the Lurkens reference with a "second aperture", as taught by Stark in order to collect and reflect stray rays from the "projector bulb" toward the "luminance sensor" (see col. 5, lines 36-40).

2. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Lurkens et al. (U.S. Patent Application Publication No. 2005/0077841) in view of Hecht (U.S. Patent No. 6,637,893).

Lurkens discloses the claimed invention except the projector bulb comprising a “xenon halogen bulb”.

Hecht teaches providing the projector bulb comprising a xenon halogen bulb (20).

It would have been obvious to one of ordinary skill in the art at the time invention was made to provide the “system” of the Lurkens reference with a xenon halogen bulb, as taught by Hecht in order to provide a high intensity unit capable of providing a structured light beam of sufficient lumens toward an object.

3. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lurkens et al. (U.S. Patent Application Publication No. 2005/0077841) in view of Luerkens et al. (U.S. Patent No. 6,779,896).

Lurkens '841 discloses an optical filter 113. However Lurkens does not appear to disclose wherein the luminance sensor comprises an “infrared” sensor associated with an “infrared” filter of the projector; and “passing the light from the projector bulb through an infrared filter; wherein sensing the luminance further comprises sensing the infrared light at the infrared filter”.

Luerkens '896 teaches providing wherein the luminance sensor comprises an infrared sensor (see 130 – considered to be an “infrared” sensor because 140 is a high-pass filter) associated with an infrared filter (see 140 – considered to be an “infrared

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filter” because it is a high-pass filter) of the projector; and passing the light from the projector bulb through an infrared filter (140); wherein sensing the luminance further comprises sensing the infrared light at the infrared filter (see 140).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Lurkens ‘841 reference with the infrared sensor and filter, as taught by Luerkens “896 in order to avoid any adverse effect on control due to certain measurement errors that may be obtained (see col. 3, lines 30-50).

Allowable Subject Matter

1. Claims 3 and 11 remain objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
2. Claims 16-18 and 20 remain allowed.
3. The following is a statement of reasons for the indication of allowable subject matter:

Claim 3 has been found to be allowable because the prior art of record either alone or in combination neither discloses nor makes obvious the system comprising the particular feature of a switch disposed between the power driver and the luminance controller, the switch operable to selectively disable the projector bulb luminance controller interface with the power driver, in combination with the particular combination of features recited in claim 1.

Claim 11 has been found to be allowable because the prior art of record either alone or in combination neither discloses nor makes obvious the method comprising the particular method step of engaging a switch to override the reducing of the power applied to the projector bulb so that the luminance exceeds the threshold, in combination with the particular combination of method steps recited in claim 8.

Claims 16-18 and 20 have been found to be allowable because the prior art of record either alone or in combination neither discloses nor makes obvious projector comprising the particular feature of a switch interfaced with the luminance feedback controller and operable to disengage control by the luminance feedback controller of the power driver, of claim 16, in combination with the other particular combination of features recited in claim 16.

Response to Arguments

Applicants' arguments filed September 29, 2005 have been fully considered but they are not persuasive.

Applicants' argue, on pg. 6, under REMARKS, Lurkens fails to disclose or suggest the luminance controller operable to reduce the power driver output to limit projector bulb luminance at a or below a setpoint level associated with a desired projector bulb life if the maximum luminance of the projector bulb is greater than a predetermined brightness.

Examiner disagrees and maintains Lurkens discloses the luminance controller 132, 150 of FIG. 4 is operable to reduce the power driver output to limit projector bulb

luminance at or below a setpoint level (rated value or power level of projector bulb 112 in FIG. 4) associated with a desired projector bulb life if the maximum luminance of the projector bulb is greater than a predetermined brightness, in FIGS. 2a-d, and further, in paragraphs [0061]-[0065].

Further, applicants' argue Lurkens discloses only small adjustments to power in response to sensed luminance to reduce flicker and seeks to maintain power substantially at the rated power of the bulb, accepting declines in brightness at the rated power over time.

It is irrelevant how small the adjustments made to the power in Lurkens are. The adjustments are still adjustments no matter how small they are. According to FIGS. 2a-d and 4 and paragraphs [0061]-[0065], luminance controller 132, 150 reduces the power driver output in response to sensed luminance. Accordingly, Lurkens still reads on the "claimed" invention.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rochelle Blackman whose telephone number is (571) 272-2113. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



RB

William Perkey
Primary Examiner